NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

CONSERVATION COVER

(Acre)

CODE 327

DEFINITION

Establishing and maintaining permanent vegetative cover to protect soil and water resources.

PURPOSES

- Reduce soil erosion and sedimentation.
- Improve water quality.
- Improve air quality.
- Enhance wildlife habitat.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies on land to be retired from agricultural production requiring permanent protective cover, and on other lands needing permanent protective cover. This practice does not apply to plantings for forage production or to critical area plantings.

CRITERIA

General Criteria Applicable to All Purposes

Species shall be adapted to soil, site, and climate conditions.

Use the Intermountain Planting Guide, Utah Interagency Forage and Conservation Planting Guide, Utah Pasture Handbook, or Agronomy Technical Notes for selecting species and developing seeding recommendations. Dryland/range seeding recommendations may be reduced by no more than 20% when using the Intermountain Planting Guide.

Use of invasive species shall be avoided.

Appropriate planting dates, planting methods and care in handling and planting of the seed or planting stock shall be used to ensure that planted materials have an acceptable rate of survival.

Only viable, high quality and adapted seed or planting stock shall be used. The following criteria are applicable:

In precipitation zones of >= 14 inches, mixture will include a minimum of at least three introduced/native grasses and a combination of three legumes, forbs, and/or shrubs.

In precipitation zones of < 14 inches, mixture will include a minimum of at least two introduced/native grasses and a combination of two legumes, forbs, and/or shrubs.

Legumes, forbs, and/or shrubs shall comprise > 35% of the mixture. Alfalfa is preferred as one of the legumes.

Crested wheatgrass shall not exceed 20% of the seed mixture in precipitation zones of > 12 inches or 35% in precipitation zones of <= 12 inches.

Legume, forbs, and/or shrub and crested wheat mixture percentages as shown above are to be based on seed counts.

Legume seed shall be inoculated with the proper Rhizobia bacteria before planting.

Site preparation shall be sufficient for establishment and growth of selected species.

Site should be relatively free of weeds.

Seedbed should be firm enough for good seed to soil contact. After seeding, if

necessary, harrow or press the soil to assure good seed to soil contact.

Manage weeds on dry cropland by fallowing for a minimum of one year prior to seeding. Exceptions must be approved through the State Conservationist.

During establishment weeds are to be controlled by use of mowing or clipping, or through cautious use of burning or chemicals.

If burning is used alone or in combination with the other weed control methods, Prescribed Burning, practice code 338, must be included as a planned practice.

All chemical applications must be made in accordance with the current Montana, Utah, Wyoming Weed Management Handbook, individual chemical label, and pest management practice standard.

All nutrients shall be applied following the nutrient management practice standard.

Additional Criteria for Enhancing Wildlife Habitat

Grasses, forbs, and legumes shall be planted in mixes to encourage plant diversity.

Species should be selected that are best suited for the targeted wildlife in the area. Refer to Tables I, II, III, and IV for guidelines on best-suited species for individual wildlife or use the Division of Wildlife Resources (UDWR) approved mixes.

Refer cooperators to UDWR as a potential source of seed. When using UDWR seed refer to the attached approved UDWR seed mixes.

Additional Criteria for Interseeding of Plant Materials into Existing Stands

Interseeding of Legumes/Shrubs into Existing Grass Stands

Open space (bare ground and litter) in the existing stand must be greater than 40% to seed directly into existing stands.

Stands with less than 40% open space (bare ground and litter) or stands of tall bunch grasses such as tall wheat may be burned and then seeded directly or worked up through chiseling or discing. Open space may also be increased with herbicides sprayed in narrow strips.

When interseeding, the top ¼ to ½ inch of the soil surface must be disturbed either with drill settings or attachments or some other implement.

The stand must be monitored during germination and seedling development for stress and clipped or mowed as necessary to assure seedling survival.

Interseeding of Grasses into Existing Legume Stands

Grasses may not be interseeded directly into alfalfa stands due to the allelopathic of alfalfa. Alfalfa stands must first be chiseled or disced and can then be interseeded. Grasses may be interseeded directly into legume stands other than alfalfa following the same criteria as given for seeding of legumes/shrubs into existing grass stands.

CONSIDERATIONS

This practice may be used to promote the conservation of wildlife species in general, including threatened and endangered species.

Where applicable this practice may be used to conserve and stabilize archeological and historic sites.

Consider rotating management and maintenance activities (e.g. mow in strips that cover one-third or one-half of the area each year) throughout the managed area to maximize spatial and temporal diversity.

Where wildlife management is an objective, the food and cover value of the planting can be enhanced by using a habitat evaluation procedure to aid in selecting plant species and providing or managing for other habitat requirements necessary to achieve the objective.

Consider trying to re-establish the native plant community for the site.

If a native cover (other than that which was planted) establishes, and this cover meets the intended purpose and the landowner's objectives, the cover should be considered adequate.

Mowed or clipped vegetation, if baled, may be used for wildlife nesting platforms for waterfowl or for erosion control in gullies or other areas, unless weed infested.

PLANS AND SPECIFICATIONS

Specifications for this practice shall be prepared for each site. They shall include species to be seeded, seedbed preparation, planting method, seeding rates and dates, erosion control measures, and management during and after establishment. Specifications shall be recorded using approved specification/job sheets, or other acceptable documentation.

OPERATION AND MAINTENANCE

Include measures to control noxious weeds as necessary to comply with Utah noxious weed laws, and to control outbreaks of detrimental insects and pests.

When controlling weeds, insects, or other pests use “spot treatments” where possible in order to protect native pollinators and other wildlife.

Burning, mowing or clipping, and light disking or chiseling are acceptable methods of maintenance. Burning requires the use of practice standard 338-Prescribed Burning.

Maintenance practices are not to disturb the established cover during the primary nesting period from April 1 to July 15 except during the first year of establishment when necessary to assure successful stand establishment.

Firebreaks, practice 394, are acceptable as long as erosion is controlled. Bare firebreaks are acceptable only where high fire risk exist (i.e. adjacent to buildings, housing areas, or highways).

Maintain healthy stands by scheduling a burning, mowing, clipping, light disking, or chiseling at least once every 6 years following establishment. Maintenance practices shall not exceed three times during a ten year period (Haying or grazing may take the place of regularly scheduled maintenance where not prohibited by any program requirements).

When vegetation is windrowed and not baled, burn heavy windrows in order to prevent injury to the growing grass.

When using light disking or chiseling for maintenance, operate the equipment in such a manner as to maintain a 2-3” working depth. If necessary, modify the disk angle or chisel points to maintain the specified working depth.

REFERENCES

Current Montana, Utah, Wyoming Weed Management Handbook

“Interagency Forage and Conservation Planting Guide for Utah”, Utah State University, EC 433, August 1989.

“Intermountain Planting Guide”, USDA-ARS Forage and Range Research Lab, Logan, Utah, AG 510, 2001.

Ogle, Dan, ”Improved Grass, Forb, Legume, Woody, Seed Specie for the Intermountain West”, TN Plant Materials No. 24, USDA-NRCS, June 2001, Boise, Idaho

Utah Division of Wildlife Resources (UDWR)

Table 1. Utah Recommended Plant Species Mix for General Wildlife Species

INTRODUCED SPECIES	NATIVE SPECIES
Grasses	**Grasses**
Intermediate Wheatgrass	Western Wheatgrass
Tall Wheatgrass	Indian Ricegrass
Orchardgrass	Thickspike Wheatgrass
Perennial Mountain Rye	Bluebunch Wheatgrass
Pubescent Wheatgrass	Great Basin Wildrye
Russian Wildrye	
	Forbs/Legumes
Forbs/Legumes	Western Yarrow
	Lewis Flax
Sainfoin	Bee Spiderflower
*Yellow Sweetclover	Common sunflower
Alfalfa (Dryland)	
Small Burnet	**Shrubs**
Cicer Milkvetch	Wyoming Big Sagebrush
	Basin Big Sagebrush
Shrubs	Mountain Big Sagebrush
Forage Kochia	Bitterbrush
	Fourwing Saltbush
	Rabbitbrush
	Winterfat

* Do not include in percentage of mixture

Table 2. Utah Recommended Plant Species Mix for Big Game Species

INTRODUCED SPECIES	NATIVE SPECIES
Grasses	**Grasses**
Intermediate Wheatgrass	Western Wheatgrass
Tall Wheatgrass	Indian Ricegrass
Orchardgrass	Thickspike Wheatgrass
Perennial Mountain Rye	Bluebunch Wheatgrass
Pubescent Wheatgrass	Great Basin Wildrye
Russian Wildrye	
	Forbs/Legumes
Forbs/Legumes	Lewis Flax
Sainfoin	
Alfalfa (Dryland)	**Shrubs**
Small Burnet	Wyoming Big Sagebrush
	Basin Big Sagebrush
Shrubs	Mountain Big Sagebrush
Forage Kochia	Bitterbrush
	Fourwing Saltbush
	Winterfat

Table 3. Utah Recommended Plant Species Mix for Bird Species

INTRODUCED SPECIES	NATIVE SPECIES
Grasses	**Grasses**
Pubescent Wheatgrass	Thickspike Wheatgrass
Tall Wheatgrass	Bluebunch Wheatgrass
Bromegrass	
Orchardgrass	**Forbs/Legumes**
Perennial Mountain Rye	Lewis Flax
Russian Wildrye	Western Yarrow
	Bee Spiderflower
Forbs/Legumes	Common Sunflower
Yellow Sweetclover	
Alfalfa (Dryland)	**Shrubs**
Small Burnet	Wyoming Big Sagebrush
	Basin Big Sagebrush
Shrubs	Mountain Big Sagebrush
Forage Kochia	

Table 4. Utah Recommended Shrub/Tree Species for General Wildlife Species

INTRODUCED SPECIES	NATIVE SPECIES
Shrubs	**Shrubs**
Sand Cherry	Multi-Flora Rose
European Sage	Woods Rose
Siberian Pea Shrub	Silver Buffaloberry
Common Bladdersenna	Golden Currant
Tatarian Honeysuckle	Bush Cinquefoil
NanKing Cherry	Squawbush
Peking Cotoneaster	Willow
Leadplant	Fourwing Saltbush
Common Lilac	Deseret Peachbrush
Pyrocantha	Antelope Bitterbrush
Autumn Olive	Basin Big Sagebrush
	Wyoming Big Sagebrush
	Mountain Big Sagebrush
Honey Locust	Black Chokecherry
Lombardi Poplar	
Hybrid Poplar	**Broadleaf Trees**
	Black Locust
	Ash
Austrian Pine	Yellow Willow
Scotch Pine	Hackberry
Norway Spruce	Hawthorn
	Red Osier Dogwood
	Saskatoon Serviceberry
	Western Chokecherry
	Squawapple
	Utah Serviceberry

Table 4. Continued - Utah Recommended Shrub/Tree Species for General Wildlife Species

INTRODUCED SPECIES	NATIVE SPECIES
	Conifers
	Arizona Cypress
	Ponderosa Pine
	Colorado Blue Spruce
	Pinyon Pine
	Utah Juniper
	Rocky Mountain Juniper
	Eastern Red Cedar

APPROVED SEED MIXES WHERE DWR PROVIDES THE SEED

Big Game and Grouse Mix
San Juan County
Precipitation ≤ 13"

Species	**PLS Lbs/acre**
Grasses	
Bluebunch wheatgrass	1.0
Thickspike wheatgrass	1.0
Western wheatgrass	1.5
Crested wheatgrass	0.5
Pubescent wheatgrass	1.0
Legumes/Forbs	
Alfalfa (Rambler)	1.0
Alfalfa (Ladak, Nomad)	1.5
Western yarrow	0.12
Lewis flax	0.25
Sainfoin	0.5
Small burnet	2.0
Shrubs	
Wyoming big sagebrush	0.5
Forage kochia	0.5
Total	11.37

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Millard and Juab County
Precipitation 10 to 12”

Species	**PLS Lbs/acre**
Grasses	
Intermediate, Pubescent, and/or Tall wheatgrass	2.0
Crested wheatgrass	2.0
Russian wildrye	1.0
Legumes/Forbs	
Alfalfa	2.0
Lewis flax	0.25
Small burnet	2.0
Bee Spiderflower	0.25
Yellow Sweetclover	0.5
Shrubs (seed separate)	
Wyoming big sagebrush	0.05
Forage kochia	0.25
Total	10.30

Box Elder County
Precipitation 10 to 12”

Species	**PLS Lbs/acre**
Grasses	
Pubescent wheatgrass	2.0
Crested wheatgrass	2.0
Russian wildrye	1.0
Legumes/Forbs	
Alfalfa	2.0
Lewis flax	0.25
Small burnet	2.0
White sweetclover	0.5
Shrubs	
Wyoming big sagebrush	0.05
Forage kochia	0.25
Total	10.05

Statewide General Seedings
Precipitation 10+”

Species	PLS Lbs/acre
Grasses	
Thickspike wheatgrass	2.0
Western wheatgrass	2.0
Bluebunch wheatgrass	2.0
Legumes/Forbs	
Alfalfa	2.0
Lewis flax	0.25
Small burnet	2.0
Bee Spiderflower	0.15
Shrubs (seed separate)	
Wyoming big sagebrush	0.05
Total	10.45

Statewide Interseeding Mix
Precipitation 10+”

Species	PLS Lbs/acre
Grasses	
Grasses selected as needed	2.0
Legumes/Forbs	
Alfalfa	3.0
Small burnet	3.0
Western yarrow	0.5
Yellow sweetclover	0.5
Bee Spiderflower	0.25
Penstemon	0.5
Shrubs (seed separate)	
Wyoming big sagebrush	0.05
Forage kochia	0.25
Total	10.05

Sainfoin may be added at higher precipitation’s @ 2 lbs/ac

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April 2002

Box Elder and Cache County
Precipitation 13+”

Species	PLS Lbs/acre	
Grasses		
Hard or Sheep fescue	0.5	
Crested wheatgrass	0.5	
Meadow brome (Regar)	0.5	
Orchardgrass (Paiute)	0.5	
Big bluegrass (Sherman)	0.5	
Intermediate wheatgrass	0.5	
Great Basin wildrye	0.5	
Legumes/Forbs		
Alfalfa	3.0	
Western yarrow	0.12	
Cicer milkvetch	0.5	
Small burnet	1.5	
Sainfoin		1.5
Sweetclover (yellow or white)	0.5	
Shrubs		
Mountain big sagebrush	0.2	
Total	10.82	

Cache County Valley Bottom
Precipitation 13+”

Species	PLS Lbs/acre
Grasses	
Tall Wheat	1.0
Tall Fescue	1.0
Bozoiski Russian wildrye	1.5
Great Basin wildrye	0.5
Legumes/Forbs	
Alfalfa (Spreader 2)	1.0
Birdsfoot Trefoil	2.0
Strawberry Clover	0.5
TOTAL	**7.50**